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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/742,150

12/18/2003

Thomas Man Yin Ying

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6004

7590

08/22/2007

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EXAMINER

FOTAKIS, ARISTOCRATIS

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

08/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/742,150

Applicant(s)

YING ET AL.

Examiner

Aristocratis Fotakis

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/18/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/18/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/18/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahmed (US 5,025,457).

Re claims 1 and 7, Ahmed teaches of an apparatus for recovering a reference clock, generated by a master clock in a sender (transmitter, Col 6, Line 35), from items of timing information sent by said sender over a network to said apparatus, said apparatus comprising a controllable slave clock (Col 16, Line 26) and a control circuit (#70, Fig.4) (Col 1, Lines 6 – 11 and Col 2, Lines 21 – 46): for determining each r th frequency drift between frequencies of said master clock and said slave clock as a function of $(m \times N) - C_a(n + r \times m)$ (Col 3, Lines 15 – 35, Col 8; Lines 1 – 45, equations 8 – 11, Fig.7a), where the $C_a(n)$ of the $(n + r \times m)$ th packet can be found below:

$$C_a(n) = \frac{1}{q} \left(\sum_{i=0}^{q-1} C(n-i) \right), \text{ (Fig.7a, Equation (9), } C_a(n) \text{ is } \Delta t(k), q \text{ is } W \text{ and } n \text{ is } k),$$

where N is a number of cycles of said master clock between sending of consecutive said timing information items (N , Fig.3), $C'(s)$ is a number of slave clock cycles between receipt of $(s-rm)^{\text{th}}$ and s^{th} said timing information items from said network ($L < \Delta t(k) < L+W-1$, so $r \times m = W-1$ and because $W = q$ from above, therefore $r \times m = q-1$, Col 11, Lines 37 - 43) (equations 9 and 10), m is an integer greater than zero, q is an integer greater than one (since $r \times m = q-1$, q is an integer greater than one) and r is a non-negative integer representing an order of a drift determination (r represents an order of a drift determination wherein the number of packets is within a predetermined range, Col 3, Lines 48 – 67); and for controlling said slave clock so as to reduce a drift (error) between said master clock and said slave clock (Col 3, Lines 1 – 10).

Re claim 2, Ahmed teaches of an apparatus, wherein in the network is a non-synchronous network (Col 1, Lines 24 – 25).

Re claim 3, Ahmed teaches of an apparatus, wherein in the network is a packet switching network and each timing information item is a packet (Col 1, Lines 10 – 11).

Re claim 4, Ahmed teaches of $q < m$. As discussed above in claims 1 and 7, $m=q-1$. Therefore m is always greater than q .

Re claim 5, Ahmed teaches of an apparatus, wherein in the slave clock is a variable frequency oscillator (VFO), which is in the same family of oscillators as the voltage controlled oscillators (VCO) (Col 6, Line 37).

Re claim 6, Ahmed teaches of said control circuit is arranged to adjust said frequency of said slave clock after each said drift determination by: $x[(m \times N) - C_a(n + r \times m)]$ where x is a parameter determining a rate of drift compensation (Col 8, Lines 28 – 29, $N = x$). N is the number of bits in a packet, which relates to the rate of drift compensation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristocratis Fotakis whose telephone number is (571) 270-1206. The examiner can normally be reached on Monday - Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF



CHIEH M. FAN
SUPERVISORY PATENT EXAMINER